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EXAMINER	
BUTLER, PATRICK	
ART UNIT	PAPER NUMBER
1732	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/767,624	MILLER ET AL.	
	Examiner	Art Unit	
	Patrick Butler	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The amendment filed 21 June 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The new selected formula for the paper makers alum.

Applicant is required to cancel the new matter in the reply to this Office Action. Although Applicant's Arguments filed 30 January 2007 indicate "the proposed amendment is withdrawn," the request is moot since the amendment was made rather than proposed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,320,677 (Baig) in view of U.S. Patent No. 3,835,219 (Jaunarajs et al.).

With respect to Claim 5, Baig teaches a method of producing a composite material (in an improved process for producing a composite product) including mixing

wood fibers, gypsum and water to form a dilute slurry (mixing water, gypsum and a cellulosic fiber to form a dilute slurry); processing the slurry in a pressure vessel at a temperature sufficient to convert the gypsum to calcium sulfate alpha hemihydrate while continuously agitating the slurry with gentle stirring or mixing to break up any fiber clumps and keep all of the fibers in suspension (heating the slurry, under pressure, to form acicular calcium sulfate alpha hemihydrate crystals); removing the calcined slurry from the pressure vessel; substantially dewatering the slurry to form a filter cake (substantially dewatering the hot slurry); pressing, molding or otherwise shaping the dewatered filter cake (shaping the dewatered slurry to form a composite product before rehydrating the hemihydrate back to gypsum); rehydrating the filter cake by allowing the filter cake to cool; and drying the filter cake to remove the remaining water from the rehydrated filter cake (abstract; column 4, lines 26-59). Baig further teaches that crystal modifiers, such as for example organic acids, can be added to the slurry while being agitated in the pressure vessel to stimulate or retard crystallization or to lower the calcining temperature (adding a crystal modifier to said dilute slurry and heating said slurry at a reduced temperature and/or for a reduced time to form acicular calcium sulfate alpha hemihydrate crystals) (column 6, lines 41-58).

Although Baig teaches the addition of a crystal modifier to lower the calcining temperature as claimed, Baig does not specifically teach the crystal modifiers set forth in claim 5. However, Jaunarajs et al. teach a method for the preparation of fibrous soluble calcium sulfate anhydrite including forming an aqueous suspension of gypsum including a small amount of a crystal habit modifier which is suitable for the formation of

fibrous soluble anhydrite and converting the suspension to fibrous soluble hemihydrate by reaction in a pressure vessel in the presence of saturated steam at a temperature in the range from 140°C to 200°C for a period of up to 3.0 hours to form fibers having aspect ratios in the range of from 10:1 to 100:1 (the aspect ratio of said hemihydrate crystals is increased to at least 5:1) wherein the crystal habit modifier is acids and salts thereof and other salts such as sodium chloride (said crystal modifier is ... chlorine) (col. 2, lines 24-59; col. 3, lines 10-19). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to use zinc sulfate as the crystal modifier in the process of Baig as taught by Jaunarajs et al. to provide more accurate and more extensive control of the crystal formation (e.g., the aspect ratio) in the process of Baig. With regard to the crystal modifier causing an increase in the aspect ratio of the crystals in the process of Baig in view of Jaunarajs et al. as set forth in claim 5, the examiner stipulates that one of ordinary skill in the art would have obviously recognized that aspect ratio of the crystals was increased by the addition of the crystal habit modifier because the process of Baig in view of Jaunarajs et al. would be capable of producing aspect ratios within the claimed range as set forth above (see column 2, lines 38-42 of Jaunarajs et al.).

Claims 3, 4, 7 and 8

The discussion of Baig and Jaunarajs et al. as applied to claim 5 and 6 above applies herein.

Although Baig teaches the addition of a crystal modifier to lower the calcining temperature as claimed, Baig does not specifically teach that the amount of crystal

modifier is from about 0.05% to about 5%, or more particularly about 0.1% to about 1% by weight based on the weight of gypsum. However, Jaunarajs et al. further teach that the crystal habit modifier is present in an amount of from 0.1 to 5 weight percent, preferably 0.25 to 1.5 percent (the amount of crystal modifier is from about 0.05% to about 5% by weight, based on the weight of gypsum; the amount of crystal modifier is from about 0.1% to about 1% by weight, based on the weight of gypsum) (column 3, lines 17-19). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to use zinc sulfate, in the claimed amounts, as the crystal modifier in the process of Baig as taught by Jaunarajs et al. to provide more accurate and more extensive control of the crystal formation (e.g., the aspect ratio) in the process of Baig.

Claims 9-14

As the process of Baig does not include interruptions of steps or sequence, the process is interpreted to be continuously performed. Moreover, the process is described as continuous (see Col. 5 line 1-4). Baig teaches a method of continuously producing a composite material (in an improved process for producing a composite product) including mixing wood fibers, gypsum and water to form a dilute slurry (mixing water, gypsum and a cellulosic fiber to form a dilute slurry); processing the slurry in a pressure vessel at a temperature sufficient to convert the gypsum to calcium sulfate alpha hemihydrate while continuously agitating the slurry with gentle stirring or mixing to break up any fiber clumps and keep all of the fibers in suspension (heating the slurry, under pressure, to form acicular calcium sulfate alpha hemihydrate crystals); removing

the calcined slurry from the pressure vessel; substantially dewatering the slurry to form a filter cake (substantially dewatering the hot slurry); pressing, molding or otherwise shaping the dewatered filter cake (shaping the dewatered slurry to form a composite product before rehydrating the hemihydrate back to gypsum); rehydrating the filter cake by allowing the filter cake to cool; and drying the filter cake to remove the remaining water from the rehydrated filter cake (abstract; column 4, lines 26-59). Baig further teaches that crystal modifiers, such as for example organic acids, can be added to the slurry while being agitated in the pressure vessel to stimulate or retard crystallization or to lower the calcining temperature (column 6, lines 41-58).

Although Baig teaches the addition of a crystal modifier, Baig does not specifically teach the crystal modifier is alum. Baig further does not teach that the aspect ratio is maintained between 5:1 and 50:1 as set forth in claims 10-12. However, Jaunarajs et al. teach a method for the preparation of fibrous soluble calcium sulfate anhydrite including forming an aqueous suspension of gypsum including a small amount of a crystal habit modifier which is suitable for the formation of fibrous soluble anhydrite and converting the suspension to fibrous soluble hemihydrate by reaction in a pressure vessel in the presence of saturated steam at a temperature in the range from 140^{o}C to 200^{o}C for a period of up to 3.0 hours to form fibers having aspect ratios in the range of from 10:1 to 100:1 (said first selected value is at least 5:1; said first selected value is at least 10:1; said second selected value is not greater than 50:1; the amount of alum being sufficient to maintain the aspect ratio of said crystals to at least about 5:1 and no greater than about 50:1; the amount of alum adjusted to maintain the aspect ratio of

said crystals to at least about 10:1 and no greater than about 50:1) wherein the crystal habit modifier is acids and salts thereof and other salts such as sodium chloride, sodium sulfate, aluminum sulfate (alum) and zinc sulfate (column 2, lines 24-59). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to use alum as the crystal modifier in the process of Baig to provide a product having an aspect ratio in the claimed range as taught by Jaunarajs et al. to provide more accurate and more extensive control of the crystal formation (e.g., the aspect ratio) in the process of Baig.

With regard to the step of "monitoring the aspect ratio" set forth in claims 9 and 13, the examiner stipulates that one of ordinary skill in the art when viewing the teachings of Baig and Jaunarajs et al. as a whole would have obviously recognized that the aspect ratio must intrinsically be monitored in some type of fashion in the process of Baig in view of Jaunarajs et al., even if not specifically stated, to assure that the aspect ratio is maintained in the desired and claimed range (e.g., 10:1 to 50:1). The process of Baig in view of Jaunarajs et al. would teach the broadly claimed monitoring step of claims 9 and 13.

With regard to the "continuously monitoring" set forth in Claims 9 and 13, the Baig as the process is continuous and the monitoring is done as part of the process, then the monitoring would necessarily be continuous as well.

With regard to the steps of "increasing the amount of alum" and "decreasing the amount of alum" set forth in claim 9, the examiner stipulates that these steps are optional because they are only required *when* the monitoring indicates that the aspect

ratio is out of the claimed range. If the aspect ratio was constantly maintained within the claimed range, as would obviously be desired in the process of Baig in view of Jaunarajs et al. to minimize the amount of waste product, the claimed steps of "increasing the amount of alum" and "decreasing the amount of alum" would not be required, and therefore would be optional. As such, the process of Baig in view of Jaunarajs et al. is not required to teach the optional steps of adjusting the amount of the crystal modifier (i.e., alum) as set forth in claim 9. However, even if the steps of adjusting the amount of the crystal modifier are not optional, the steps would have been obvious as further discussed with regard to claim 13 below.

With regard to the step of "adjusting the amount of alum used to form said slurry" set forth in claim 13, the examiner stipulates that one of ordinary skill in the art, when viewing the teachings of Baig and Jaunarajs et al. as a whole, would have obviously recognized that the amount of crystal modifier (i.e., alum) in the process of Baig in view of Jaunarajs et al. must intrinsically be adjusted in some fashion during the process of Baig in view of Jaunarajs et al., even if not specifically stated, to maintain the aspect ratio within the desired and claimed range (e.g., 10:1 to 50:1). If the amount of crystal modifier was not accurately set and not increased and/or decreased as needed during the process of Baig in view of Jaunarajs et al., the product formed would not have the desired characteristics and a great amount of undesired, waste product would be generated. Note that claim 13, as currently written, does not require the steps of "monitoring the aspect ratio" and "adjusting the amount of alum" to be interrelated (e.g., adjusting in response to the monitoring).

Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,320,677 (Baig) in view of U.S. Patent No. 3,835,219 (Jaunarajs et al.) and Spiring (Total Quality Management Vol. 6, No. 1, 1995, Pages 21-33).

Claims 9-14

As the process of Baig does not include interruptions of steps or sequence, the process is interpreted to be continuously performed. Moreover, the process is described as continuous (see Col. 5 line 1-4). Baig teaches a method of continuously producing a composite material (in an improved process for producing a composite product) including mixing wood fibers, gypsum and water to form a dilute slurry (mixing water, gypsum and a cellulosic fiber to form a dilute slurry); processing the slurry in a pressure vessel at a temperature sufficient to convert the gypsum to calcium sulfate alpha hemihydrate while continuously agitating the slurry with gentle stirring or mixing to break up any fiber clumps and keep all of the fibers in suspension (heating the slurry, under pressure, to form acicular calcium sulfate alpha hemihydrate crystals); removing the calcined slurry from the pressure vessel; substantially dewatering the slurry to form a filter cake (substantially dewatering the hot slurry); pressing, molding or otherwise shaping the dewatered filter cake (shaping the dewatered slurry to form a composite product before rehydrating the hemihydrate back to gypsum); rehydrating the filter cake by allowing the filter cake to cool; and drying the filter cake to remove the remaining water from the rehydrated filter cake (abstract; column 4, lines 26-59). Baig further teaches that crystal modifiers, such as for example organic acids, can be added to the

slurry while being agitated in the pressure vessel to stimulate or retard crystallization or to lower the calcining temperature (column 6, lines 41-58).

Although Baig teaches the addition of a crystal modifier, Baig does not specifically teach the crystal modifier is alum. Baig further does not teach that the aspect ratio is maintained between 5:1 and 50:1 as set forth in claims 10-12. However, Jaunarajs et al. teach a method for the preparation of fibrous soluble calcium sulfate anhydrite including forming an aqueous suspension of gypsum including a small amount of a crystal habit modifier which is suitable for the formation of fibrous soluble anhydrite and converting the suspension to fibrous soluble hemihydrate by reaction in a pressure vessel in the presence of saturated steam at a temperature in the range from 140^{o}C to 200^{o}C for a period of up to 3.0 hours to form fibers having aspect ratios in the range of from 10:1 to 100:1 (said first selected value is at least 5:1; said first selected value is at least 10:1; said second selected value is not greater than 50:1; the amount of alum being sufficient to maintain the aspect ratio of said crystals to at least about 5:1 and no greater than about 50:1; the amount of alum adjusted to maintain the aspect ratio of said crystals to at least about 10:1 and no greater than about 50:1) wherein the crystal habit modifier is acids and salts thereof and other salts such as sodium chloride, sodium sulfate, aluminum sulfate (alum) and zinc sulfate (column 2, lines 24-59). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to use alum as the crystal modifier in the process of Baig to provide a product having an aspect ratio in the

claimed range as taught by Jaunarajs et al. to provide more accurate and more extensive control of the crystal formation (e.g., the aspect ratio) in the process of Baig.

With regard to the step of "monitoring the aspect ratio" set forth in claims 9 and 13, the examiner stipulates that one of ordinary skill in the art when viewing the teachings of Baig and Jaunarajs et al. as a whole would have obviously recognized that the aspect ratio must intrinsically be monitored in some type of fashion in the process of Baig in view of Jaunarajs et al., even if not specifically stated, to assure that the aspect ratio is maintained in the desired and claimed range (e.g., 10:1 to 50:1). The process of Baig in view of Jaunarajs et al. would teach the broadly claimed monitoring step of claims 9 and 13.

With regard to the steps of "increasing the amount of alum" and "decreasing the amount of alum" set forth in claim 9, the examiner stipulates that these steps are optional because they are only required *when* the monitoring indicates that the aspect ratio is out of the claimed range. If the aspect ratio was constantly maintained within the claimed range, as would obviously be desired in the process of Baig in view of Jaunarajs et al. to minimize the amount of waste product, the claimed steps of "increasing the amount of alum" and "decreasing the amount of alum" would not be required, and therefore would be optional. As such, the process of Baig in view of Jaunarajs et al. is not required to teach the optional steps of adjusting the amount of the crystal modifier (i.e., alum) as set forth in claim 9. However, even if the steps of adjusting the amount of the crystal modifier are not optional, the steps would have been obvious as further discussed with regard to claim 13 below.

With regard to the step of "adjusting the amount of alum used to form said slurry" set forth in claim 13, the examiner stipulates that one of ordinary skill in the art, when viewing the teachings of Baig and Jaunarajs et al. as a whole, would have obviously recognized that the amount of crystal modifier (i.e., alum) in the process of Baig in view of Jaunarajs et al. must intrinsically be adjusted in some fashion during the process of Baig in view of Jaunarajs et al., even if not specifically stated, to maintain the aspect ratio within the desired and claimed range (e.g., 10:1 to 50:1). If the amount of crystal modifier was not accurately set and not increased and/or decreased as needed during the process of Baig in view of Jaunarajs et al., the product formed would not have the desired characteristics and a great amount of undesired, waste product would be generated. Note that claim 13, as currently written, does not require the steps of "monitoring the aspect ratio" and "adjusting the amount of alum" to be interrelated (e.g., adjusting in response to the monitoring).

With regard to the "continuously monitoring" set forth in Claims 9 and 13, the Baig as the process is continuous and the monitoring is done as part of the process, then the monitoring would necessarily be continuous as well. Moreover, Spiring teaches continuously monitoring of a process's ability/capability. As the process ability/capability is a function of the process variables, Spiring teaches continuously monitoring of the process variables, particularly via control chart (See Spiring, Abstract, page 7, second paragraph of Introduction page 21, third new paragraph page 22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Spiring's continuous process monitoring with the

process as taught by Baig and Jaunarajs in order to assess the ability of a process to meet customer requirements/attain proper output values.

Response to Arguments

The Declaration under 37 CFR 1.132 filed 30 January 2007 is insufficient to overcome the rejection of claims 5-14 based upon rejections under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,320,677 (Baig) in view of U.S. Patent No. 3,835,219 (Jaunarajs et al.) and under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,320,677 (Baig) in view of U.S. Patent No. 3,835,219 (Jaunarajs et al.) and Spiring (Total Quality Management Vol. 6, No. 1, 1995, Pages 21-33) as set forth in the last Office action.

Indications of the affidavit under 37 CFR 1.132 filed 30 January 2007 appear to be on the grounds that:

1) Crystal modifiers are only mentioned by Baig in the discussion of organic acids that "stimulate or retard crystallization or to lower the calcining temperature" (see col. 6, lines 42-45). Thus, Baig does not teach that organic acids would impact the aspect ratio of the hemihydrate crystals.

2) Since three parameters impacted by crystal modifiers are formation speed, temperature, and shape, it would not be obvious to use a modifier for one parameter (speed or temperature) as a modifier for another (shape).

3) Since those skilled in the art recognize that crystal modifiers for calcium sulfate crystals produce low aspect ratios as compared to not having crystal modifiers,

those skilled in the art would not look to using crystal modifiers to produce higher aspect ratios.

4) Organic acids taught by Baig cause short block crystals.

5) Jaunarajs is directed to producing anhydrite crystals rather than calcium sulfate hemihydrate crystals in a system of cellulosic fiber. Crystal formation with organic impurities such as the cellulosic fibers of the calcinations system causes short block crystals.

6) Jaunarajs's teaching of using crystal habit modifiers does not suggest that the modifiers will increase the aspect ratio of the crystals being formed as claimed by Miller.

7) Jaunarajs's examples show that the presence of crystal habit modifiers produces a lower aspect ratio of the crystals as opposed to no modifier being present.

8) The organic acids disclosed in Jaunarajs's are commonly used as crystal modifiers to force the aspect ratio to shorter and blockier crystals.

9) The use of chloride would be known to produce shorter or blockier hemihydrate rather than a higher aspect ratio.

The indications of the affidavit are addressed as follows:

1-4 and 6-9) Since Baig is not relied upon to teach the use of crystal modifiers for the purpose of obtaining a crystal growth ratio or shape, discussion of whether it teaches obtaining a crystal growth ratio is moot. Instead, Jaunarajs is relied upon for obtaining the crystal growth ratio by providing more accurate and more extensive control of the crystal formation (e.g., the aspect ratio) in the process of Baig. Thus, discussion of different motivations is moot.

5) Since Baig already provides the presence of cellulosic matter within the system, Jaunarajs is not relied upon to show motivation for or teaching of its presence. Jaunarajs is relied upon for all it teaches, which clearly includes "forming fibers of soluble calcium sulfate hemihydrate" (see col. 2, lines 38 and 39). Thus, interpretation of only producing anhydrite is moot.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Applicant argues with respect to the 35 USC 103 rejections. Applicant's arguments appear to be on the grounds that:

1) Crystal modifiers are only mentioned by Baig in the discussion of organic acids that "stimulate or retard crystallization or to lower the calcining temperature" (see col. 6, lines 42-45). Thus, Baig does not teach that organic acids would impact the aspect ratio of the hemihydrate crystals. Moreover, Baig does not teach using aluminum chloride, chlorine, and alum.

2) It is declared that the crystal modifiers of Baig would not produce crystals of increased aspect ratio.

3) Since three parameters impacted by crystal modifiers are formation speed, temperature, and shape, it would not be obvious to use a Baig's modifier for one parameter (speed or temperature) as a modifier for another (shape).

4) As declared, desiring longer aspect ratio crystals would require pure aqueous suspensions rather than by having crystal modifiers.

5 and 8) Jaunarajs is directed to producing anhydrite crystals rather than calcium sulfate hemihydrate crystals in a system of cellulosic fiber.

6) Jaunarajs's examples show that the presence of crystal habit modifiers produces a lower aspect ratio of the crystals as opposed to no modifier being present.

7) All chloride sources such as calcium chloride would not result in an increased aspect ratio.

9) The rehydration of applicant's process must take place within a short time, which is incompatible with anhydrite of Jaunarajs.

10) The anhydrite fibers of Jaunarajs are required for organic polymeric resins, which would not work suitably with fibers containing water (hemihydrate) because of the water released during melting and molding operations.

11) The typographical error relied upon by Examiner should read anhydrite rather than hemihydrate.

12) Spiring's monitoring of process ability/capability is moot given its lack of teaching gypsum processing.

The Applicant's arguments are addressed as follows:

1) As previously described in the Office Action mailed 23 August 2007, Baig's broad teaching of the utility of using chemicals to modify the crystal grow process would motivate one of ordinary skill to utilize teachings of crystal modifiers and their functions. Baig is not limited to organic acids given the broad teaching of using crystal modifiers and the exemplary, but not limiting, nature of the mention of organic acids:

Baig teaches that crystal modifiers, such as for example organic acids, can be added to the slurry while being agitated in the pressure vessel to stimulate or retard crystallization or to lower the calcining temperature (column 6, lines 41-58). Since crystallization is growth of crystals, controlling the crystallization includes controlling the growth. As Jaunarajs teaches the size to grow to and the aspect ratio, the controlled crystallization would control growth. Since the fibrous length grows, the calculated ratio would increase accordingly.

Moreover, the crystal modifiers are not described as fillers and are not simply listed as present without indicating function, such as simply describing the composition. Instead, they are described as their function of modifying the crystal and further clarified as controlling crystallization even to the extent to modifying the temperature of calcining.

1, 2, 4, and 6) In response to applicant's argument that the motivation of increasing crystal aspect ratio is not presented/supported, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

1 and 2) Jaunarajs is relied upon to provide more accurate and more extensive control of the crystal formation (e.g., the aspect ratio) in the process of Baig. Thus, discussion of different motivations is moot.

1) Jaunarajs's crystal modifiers are alum and sodium chloride in water (chlorine) (col. 2, lines 24-59; col. 3, lines 10-19). In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., aluminum chloride without alternatives such as chlorine) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

3) As Baig is not relied upon to teach the use of crystal modifiers for obtaining a crystal growth ratio or shape, discussion of whether it teaches obtaining a crystal growth ratio is moot.

4 and 6) If Applicant's argument is on the grounds that the aspect ratio is unexpected, the Examiner relies on Juanarajs to teach the expectation of aspect ratios resulting from use of crystal modifiers.

5 and 8-11) As previously described in the Office Action mailed 23 August 2007, Jaunarajs explicitly teaches crystal modifiers for the production of calcium sulfate alpha hemihydrate:

> Jaunarajs is relied upon to clearly teach "forming fibers of soluble calcium sulfate hemihydrate" (see col. 2, lines 38 and 39).

6) The examiner recognizes that all of the claimed effects and physical properties are not positively stated by the reference(s). Note however that the references teach all of the claimed ingredients, process steps and process conditions and thus, the claimed effects and physical properties would necessarily be achieved by carrying out the

disclosed process. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the examiner's position that the application contains inadequate disclosure in that there is no teaching as to how to obtain the claimed properties and effects by carrying out only these steps.

7) Since chloride sources read on the chlorine limitation, the result of the process would necessarily result in the claimed result unless additional steps or requirements of the process are not claimed. Regardless of calcium chloride's performance, sodium chloride taught by Jaunarajs is relied upon for the chlorine claim limitation.

9) In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., rehydration must take place within a short time) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

10) The arguments of counsel cannot take the place of evidence in the record.

10) Jaunarajs modifies Baig. Thus, it is Baig's hemihydrate process that would be modified. And, since both references teach hemihydrate, the suitable product is produced. The performance of anhydrite is moot.

11) Jaunarajs is given the presumption of validity. Moreover, the teachings were present at the patent's publication regardless of their derivation.

12) Spiring is not relied upon to teach the steps being monitored. Instead, Spiring is viewed as a process control tool, which would be applicable to processes for optimization via their monitoring. Since Baig presents a production process, Spiring's control tools would be applicable to meet the claimed limitation of monitoring. Particularly, given the control taught by Spiring and given the claim language of adjusting as required, proper control would be achieved to avoid adjustments steps.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mon.—Thu. 7:30 a.m.—5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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4/16/07